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EXAMINER

MILLER, BRIAN E

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/741,684
Filing Date: December 18, 2000
Appellant(s): WONG ET AL.

Stephen T. Neal
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed June 21, 2004.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is incorrect.

The amendment after final rejection filed on 3/15/04 has been entered as indicated in the Advisory Action mailed 3/25/04 (see item 7(b)).

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The appellant's statement in the brief that certain claims do not stand or fall together is not agreed with because while Appellant sets forth specific arguments with respect to claims 7-11 in the Brief, only a general argument has been made with regard to claim 12 which is basically only a reiteration of why independent claim 7 should be patentable over the art of record. No specific argument is set forth with respect to the specific language present in claim 12, and thus it is considered that all claims 7-12, should stand or fall together.

(8) Claims Appealed

A substantially correct copy of appealed claims 7-12 appears on page 1-2 of the Appendix to the appellant's brief. The minor "errors" are as follows: a clean version, without underlining or deletions, is not present.

(9) Prior Art of Record

5,821,494	Albrecht et al	10-1998
4,761,699	Ainslie et al	8-1988

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. Claims 7-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Albrecht et al (US 5,821,494). Albrecht et al discloses a suspension as shown in at least FIG. 3,

and FIGs. 12A-12C) which includes: a suspension 44 with a metal suspension bonding pad 64 for bonding to a magnetic head terminal with a slider bonding pad 62, which includes a bonding substance 122/60 which is a conductive adhesive solder film polymer (see col. 11, lines 16-25) (as per claims 8-11), applied as a surface finishing material, which material is heat treated "prior to bonding to a surface" (see col. 10, lines 50-53 & FIG. 10B). Additionally, as shown in FIG. 12A the slider bonding pad 62 is "initially without bonding substance" and subsequently is electrically bonded to a suspension bonding pad 64 when the bonding substance 60 is reflowed (see FIG. 12C and col. 10, lines 35-53).

2. Claims 7-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Ainslie et al (US 4,761,699). Ainslie et al discloses a suspension, as shown in FIGs. 4 & 5, including a slider 16 and a suspension 40; a suspension bonding pad 47/63 for electrically bonding to a magnetic head terminal, e.g., a slider bonding pad 41. Additionally, as shown in FIG. 4, the slider bonding pad is initially without bonding substance, such that as in FIG. 6, the suspension bonding pad 47 and slider bonding pad(s) 41, 70 are electrically coupled to each other when the bonding substance is reflowed. (as per claims 8-11) the bonding substance includes solder 80, 82 and a conductive adhesion film 74, 76, applied as a surface finishing material, which material is heat treated "prior to bonding to a surface" (see col. 7, lines 15-16).

Claim Rejections - 35 USC § 103

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Albrecht et al or Ainslie et al. Albrecht et al or Ainslie et al are silent as to the

dimensions, i.e., height and diameter, of the solder bump, however, Albrecht does teach the slider pads to be no larger than 120 um (see col. 11, lines 19-20) which size slider pad would presumably encompass a solder bump having a diameter equal to or approximate to that dimension. Taking this and the knowledge of a skilled artisan into consideration, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided solder bumps within the claimed dimensions to the respective teachings of Albrecht et al or Ainslie et al. The motivation would have been: lacking any unobvious or unexpected results, the particular solder bump height and diameter would have been provided through routine experimentation and optimization so as to optimize the electrical connection with minimal height usage, which would have been realized by a skilled artisan.

(11) Response to Arguments

A...Appellants assert (on page 4 of the Brief) that the Albrecht reference (5,821,494) does not teach or suggest “a slider bonding pad initially without bonding substance coupled to said suspension such that the bonding substance on said suspension bonding pad is reflowed so as to electrically couple the suspension bonding pad and the slider bonding pad, as cited in claim 7.”

The Examiner maintains that Albrecht would include the above limitation, since, that limitation would be considered a process step and/or an intermediate product. It is understood that the slider bonding pad would initially be without bonding substance, i.e., before assembly (see FIG. 12A of Albrecht et al).

Furthermore, it is noted that a “product by process” claim is directed to the product per se, no matter how actually made; see *In re Hirao*, 190 USPQ 15 at 17 (footnote 3, CCPA 1976); *In re Brown*, 173 USPQ 685 (CCPA 1972); *In re Luck*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); *In re Thorpe*, 227 USPQ 964 (CAFC 1985). The patentability of the Final product in a “product by process” claim must be determined by the product itself and not the actual process and an old or obvious product produced by a new method is not patentable as a product, whether claimed in “product by process” claims or not. Accordingly, the weight given to the “product by process” limitation is the structure “gleaned” from the process. In the instant case, it is considered that the FINAL product, e.g., the electrical connection via reflowed bonding substance 60 between suspension bonding pad 64 and slider bonding pad 62 (of Albrecht) would be structurally equivalent to the claimed invention, and therefore, no patentable difference is found between the two and thus the rejection is deemed proper and is maintained.

B...Appellant further submits (on page 5, lines 1-3, of the Brief) that because the slider bonding pad of Albrecht initially has a bonding substance, it would not read on the claimed invention (as surmised by the Examiner).

It is important to note here, that the claims *do not exclude* this condition, i.e., that there is bonding substance present on *only* the suspension bonding pad. Clearly, Albrecht shows a condition where there is no bonding substance on the slider bonding pad (see FIG. 12A). Assuming arguendo that the claims were amended to include such language, patentability may still not be found under 35 U.S.C § 103.

C...Appellants' arbitrary comment (on page 5, lines 6-7 of the Brief) that "The gravitational pull on the solder reflow and the initial placement of the solder will affect the shape of the solder bond" is considered moot since there has been no specific recitation of gravitational pull and shape of the solder bond with respect to claims 7-11, and should not be deemed relevant to the arguments of record.

D...Appellants' sole contention with respect to Ainslie et al (4,761,699)(on page 6 of the Brief) is that "In other words, the suspension does not have a structure such as a pad, it has the absence of a structure in the form of circular openings."

This is not found persuasive by the Examiner, as lead termination 47 clearly is indicated in FIGs. 6 & 7, and would necessarily constitute a metal bonding pad, as if were not, electrical connection between slider bonding pad 41 and suspension bonding pad 47 would not be facilitated. Ainslie sets forth that bonding pad 47 is the end termination of conductive layer 44 which includes leads 46, which leads electrically connect the suspension to the head terminals (see col. 5, lines 33-41, 54-57 & col. 7, lines 15-32).

E...With respect to Issues "C." and "D." as set forth in the Brief starting at page 6 (last 2 lines and ending on page 7), as there are no specific arguments with respect to whether or not claim 12 is obvious under either Ainslie or Albrecht, the Examiner maintains the rejection(s) of claim 12, as set forth, supra.

It is considered that Appellants' arguments with respect to claim 12 fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Art Unit: 2652

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



Brian E. Miller
Primary Examiner
Art Unit 2652

BEM

September 6, 2004

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